

CLAIMS

1. Method for identification of a sequence of circuit movement steps in a communication network for re-routing of the network to change with the movement of a single circuit at a time from an initial routing made up of a series of n circuits CA_i which satisfy corresponding demands R_i (with $i = 1, \dots, n$) to a feasible target routing made up of a new series of circuits CI_i which continue to satisfy the demands R_i and which is identified as the one which best approximates or identifies a desired target routing and which is made up of a series of n circuits CT_i which still satisfy the demands R_i (with $i = 1, \dots, n$) and with the method comprising the steps of, starting from a feasible routing which is set to be equal to the initial routing:

- (a) Calculating for each demand R_i still to be processed a replacement circuit CI_i which would reduce the cost difference with the circuit CT_i , which would satisfy the demand R_i and which is present in the desired target routing;
- (b) Choosing from among all the replacement circuits CI_i calculated under step (a) the one which has least cost and replace with it the circuit which satisfies the corresponding demand R_i in the present feasible routing;
- (c) Mark as processed the corresponding demand R_i which is satisfied by the replaced circuit CI_i ;
- (d) Repeat steps (a) to (c) until all the demands R_i have been processed; and

(e) Take as the sequence of steps for re-routing of the network the sequence with which the circuits in the feasible routing were replaced until the feasible target routing is achieved.

2. Method in accordance with claim 1 in which the cost difference between two circuits A and B is defined as the cost of the part of circuit A that does not superimpose on circuit B.

3. Method in accordance with claim 2 in which no discount is granted for non-use of circuit B resources for calculating the cost difference.

4. Method in accordance with claim 1 in which the cost of a circuit is given by the sum of the costs of branches of a graph of the network that define said circuit in the network.

5. Method in accordance with any preceding claim in which steps (a) to (e) are performed off-line on a simulator of the network to then pass the sequence of movement steps to a network manager who performs them on the actual network.

6. Method in accordance with any preceding claim in which between steps (d) and (e) is provided another step to be decided on the basis of data representative of the difference between desired target routing and feasible target routing that has been reached and whether to use as re-routing sequence of the network the sequence with which the circuits in the feasible routing were replaced until reaching the feasible target

routing or to again apply the method using as initial routing the feasible target routing already obtained.

7. Method in accordance with claim 6 in which the representative data comprise the overall distance cost between the actual routing and the feasible target routing and/or the overall distance cost between the feasible target routing and the desired target routing.
8. Telecommunications network in which is realized a plurality of circuits that satisfy a series of service demands and that use the method in accordance with the above claims for performing the re-routing.